

## 安裝說明 安装说明

### ▲ Position Control Module

- ▲ 定位控制模組
- ▲ 定位控制模块



## Warning

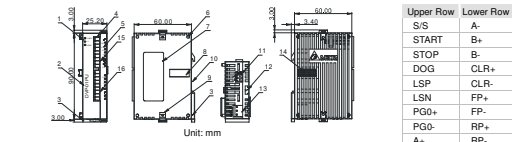
- ✓ This instruction sheet only provides descriptions for installation, wiring and trial run. For further information, please refer to special module of PLC Application Manual.
- ✓ DO NOT touch terminals when power on. Please must power OFF before wiring.
- ✓ This is an OPEN TYPE PLC. The PLC should be kept in an enclosure away from airborne dust, humidity, electric shock risk and vibration. Also, it is equipped with protective methods such as some special tools or keys to open the enclosure in order to prevent hazard to users or damage the PLC.
- ✓ DO NOT connect the AC input power to any of the input/output terminals, or it may damage the PLC. Check all the wiring prior to power up.

## 1 Introduction

### ■ Model Explanation & Peripherals

DVP01PU-S (positioning unit) is mainly applied to the speed/position control of step/servo driven system. The maximum output pulse can be up to 200 kPPS, and built-in various rotor control modes. The DVP-PLC S/S/AS/SC/SX/SV series can read/write DVP01PU-S via FROM/TO instructions. There are 49 CRs (Control Register) with 16-bit for each register in DVP01PU-S. The 52-bits data is composed of 2 continuous CR number.

### ■ Product Profile & Outline (LED Indicator and Terminal Block)



- Status Indicator (Power, LV and ERROR)
- Terminal Indicator
- DIN rail clip
- Terminal
- Extension port to connect extension module
- Mounting hole
- Nameplate
- Extension port to connect extension module
- Extension unit/module clip
- DIN rail track (35mm)
- RS-485 communication port
- Clip for combining extension modules
- Power input
- Extension port to connect extension module
- Upper row terminals
- Lower row terminals

### ■ LED Display

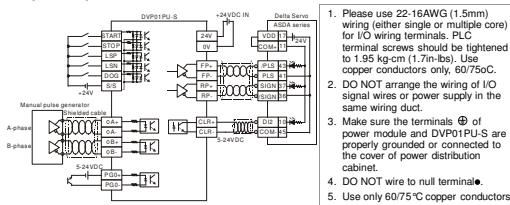
POWER : Power indicator, +5V internal power	START : Start input
LV : Low voltage indicator	STOP : Stop input
lit when external input power is lower than 19.5V	
ERROR : Error indicator (ON/OFF blinking).	FP : CW pulse output
	RP : CCW pulse output
LSP : Right limit input indicator	PA : A-phase input of manual pulse generator
LSN : Left limit input indicator	PB : B-phase input of manual pulse generator
PG0 : Zero signal input indicator	CLR : Output clear signal

### ■ Input/Output Terminal

Description	Terminal name	Content	Response
Power supply	+24V, 0V	Power input/24V DC (-15% ~ +20%) Current consumption 70±10mA; Startup peak current 1.3 A	-

Description	Terminal name	Content	Response
Input	START	Start input terminal	4ms/12ms
	STOP	Stop input terminal	4ms
	LSP/LSN	Limit Stroke of right/left limit	1ms
	PA, PB	A-phase terminal (+, -) of manual pulse generator input (line driver input)	200kHz
	QA, QB	B-phase terminal (+, -) of manual pulse generator input (line driver input)	200kHz
	PG0, PGO	Zero signal input terminal (+, -) (line driver input) Offers two different functions depending on operation mode.	4ms
Output	DOG	Offers two different functions depending on operation mode. (1) It is near-point signal in zero return mode. (2) It is start signal on interrupt 1st or interrupt 2nd speed mode.	1ms
	S/S	Signal common terminal of these inputs (START, STOP, DOG, LSP, LSN)	-
	CLR+, CLR-	Clear signal (clear signal of internal error counter for Servo drive)	4ms
	FP+, FP-	FP/RRP mode: CW pulse output I/O mode: Output pulse AB-phase mode: A-phase output	200kHz
	RP+, RP-	FP/RRP mode: CCW pulse output I/O mode: direction output AB-phase mode: B-phase output	200kHz
		RP+, RP-	I/O mode: direction output

### ■ Input/Output Circuit



- Please use 22-16AWG (1.5mm) wiring (single or multiple core) for I/O wiring terminals. PLC terminal screws should be tightened to 1.95 kg-cm (1.7in-lbs). Use copper conductors only, 60/75°C.
- DO NOT arrange the wiring of I/O signal wires or power wires in the same wiring duct.
- Make sure the terminals of power module and DVP01PU-S are properly grounded or connected to the cover of power distribution cabinet.
- DO NOT wire to null terminals.
- Use only 60/75°C copper conductors.

## 2 Specifications

### ■ Functions

Item	Content
Power supply	24V DC (-15% ~ +20%); Current consumption 70±10mA; Startup peak current 1.3 A
Max. number of connected axes	8 units; (S/S/AS/SX/SC/SV series MPU can connect up to 8 extension modules without occupying any I/O)
Distance instruction	Distance value is set by CR 1. Setting range: -2,147,483,648 ~ +2,147,483,647; 2. Selectable unit: um, mdeg, 10" inch, Pulse; 3. Selectable rate: 10", 10", 10", 10"; 4. Selectable position: absolute and relative position instruction
Speed instruction	Speed value is set by CR 1. Setting range: -2,147,483,648 ~ +2,147,483,647 (conversion value of 10 ~ 200 kPPS pulse) 2. Selectable unit: pulses/s, cm/min, 10deg/min, inch/min
External output	Photo coupler is for insulation and there are LED indications for all output/input signals Outputs: FP and RP (line driver output SV) Output: CLR is the type of NPN open collector transistor output (5 ~ 24V DC, less than 20mA) Photo coupler is for insulation and there are LED indications for all output/input signals. Input point: START, STOP, LSP, LSN, DOG/contact or open collector transistor, 24V DC±10%, 5±1mA Inputs: PA, QB (line driver or open collector transistor, 5 ~ 24V DC, 6 ~ 15mA) Input: PGO (line driver or open collector transistor, 5 ~ 24V DC, 6 ~ 15mA)
External input	
Pulse output format	Three selectable modes: Pulse/Dir, FP (CW)/RP (CCW), A/B (all modes are line driver output).

Position program & data transmission	CR data can be read/write via FROM/TO instruction of PLC MPU. The 32-bit data is composed of 2 continuous CR number. The range of 16-bit CR is CR#0 ~ CR#48.
Connect to DVP-PLC series	Modules are numbered from 0 ~ 7 with 0 closest and 7 farthest to the MPU. Up to 8 modules can be connected without occupying any digital I/O.

### ■ Others

Operation / Storage / Vibration / Shock / Immunity	Environmental specifications
1. Operation: 0°C ~ 55°C (Temperature), 50 ~ 95% (Humidity), pollution degree 2 2. Storage: -25°C ~ 70°C (Temperature), 5 ~ 95% (Humidity)	
Standard: IEC 61131-2, IEC 68-2-6 (TEST Fc)/IEC 61131-2 & IEC 68-2-27 (TEST Ea)	
Approvals	CE, UL, RoHS

## 3 CR (Control Register)

CR No.	HM	LW	Address	Labelled Attribute	Content	Setting Range
#0	#1	R	H4190	Model No.	System setting, Read-only (The model number of DVP01PU-S is H0110).	
#2	#1	R	H4191	Pulse rate (A)	Range: 1 ~ +2,147,483,647 PPS/REV, factory setting: 2,000 Pulse/Revolution (PLS/REV)	
#4	#3	R/W	H4193	Feed rate (B)	Range: 1 ~ +2,147,483,647 unit/REV, factory setting: 1,000 (unit <sup>1</sup> /REV) b15 b14 b13 b12 b11 b10 b9 b8 b7 b6 b5 b4 b3 b2 b1 b0	
#5	#4	R/W	H4195	Parameter Factory setting: H0000	STOP+, input polarity START input polarity START response Acceleration curve options DOG polarity DOG trigger time Pulse direction Zero return direction LSP input polarity LSN input polarity Pulse output format Position rate setting Unit setting	
#7	#6	R/W	H4196	Maximum speed V <sub>max</sub>	Range: 0 ~ +2,147,483,647 unit <sup>1</sup> (10 ~ 200 kPPS) *2 Factory setting: 200,000 unit <sup>1</sup>	
#9	#8	R/W	H4198	Bias speed	Range: 0 ~ +2,147,483,647 unit <sup>1</sup> (0 ~ 200 kPPS pulse transfer value) *2 Factory setting: 0 unit <sup>1</sup>	
#11	#10	R/W	H419A	JOG speed V <sub>JOG</sub>	Range: 0 ~ +2,147,483,647 unit <sup>1</sup> (10 ~ 200 kPPS pulse transfer value) *2 Factory setting: 5,000 unit <sup>1</sup>	
#13	#12	R/W	H419C	Zero return speed V <sub>RT</sub>	Range: 0 ~ +2,147,483,647 unit <sup>1</sup> (10 ~ 200 kPPS pulse transfer value) *2 Factory setting: 50,000 unit <sup>1</sup>	
#15	#14	R/W	H419E	Zero return deceleration speed V <sub>CR</sub>	Range: 0 ~ +2,147,483,647 unit <sup>1</sup> (10 ~ 200 kPPS pulse transfer value) *2 Factory setting: 1,000 unit <sup>1</sup>	
#16	#14	R/W	H41A0	PG0 in zero return mode N	Range: 0 ~ +2,147,483,647 PLS Factory setting: 0 PLS	
#17	#14	R/W	H41A1	The number of pulse in zero return mode P	Range: 32~768 ~ +32,767 PLS Factory setting: 0 PLS	
#18	H41A2	R/W		Zero return mode b0: zero return mode b1: direction DOG falling-edge in zero return mode Factory setting: 0 PLS		
#20	#19	R/W	H41A3	Zero point setting (HP)	Range: 0 ~ +599,999 unit <sup>1</sup> Factory setting: 0 unit <sup>1</sup>	
#21	H41A5	R/W		Acceleration time T <sub>ACC</sub>	Range: 10 ~ +32,767 ms Factory setting: 100 ms	

CR No.	HM	LW	Address	Labelled Attribute	Content	Setting Range
#22	#22	R/W	H41A6	Deceleration time T <sub>DEC</sub>	Range: 10 ~ +32,767 ms; factory setting: 100 ms	
#24	#23	R/W	H41A7	Target position (I) P(I)	Range: -2,147,483,648 ~ +2,147,483,647 unit <sup>1</sup> (-2,147,483,648 ~ +2,147,483,647 pulse transfer value) *2; factory setting: 0 unit <sup>1</sup>	
#26	#25	R/W	H41A9	Running speed (I) V(I)	Range: -2,147,483,648 ~ +2,147,483,647 unit <sup>1</sup> (10 ~ 200 kPPS pulse transfer value) *2; factory setting: 1,000 unit <sup>1</sup>	
#28	#27	R/W	H41AB	Target position (II) P(II)	Range: -2,147,483,648 ~ +2,147,483,647 unit <sup>1</sup> (-2,147,483,648 ~ +2,147,483,647 pulse transfer value) *2; factory setting: 0 unit <sup>1</sup>	
#30	#29	R/W	H41AD	Running speed (II) V(II)	Range: 0 ~ +2,147,483,647 unit <sup>1</sup> (10 ~ 200 kPPS pulse transfer value) *2 Factory setting: 2,000 unit <sup>1</sup>	
#31	H41AF	R/W		Running instruction factory setting: H0000	b15 b14 b13 b12 b11 b10 b9 b8 b7 b6 b5 b4 b3 b2 b1 b0 0: STOP 1: ON(OH) 2: ON(OH) 3: CLS signal output mode Current position, 0 Current speed, 0 Current position, 0 Return to factor setting MMS setting LSP/LSN stop mode Manual pulse generator range limitation STOP mode Manual pulse generator input operation Zero return Variable speed operation mode start Interrupt, 2 <sup>nd</sup> speed position mode start 2 <sup>nd</sup> speed position mode start Interrupt, 1 <sup>st</sup> speed position mode start 1 <sup>st</sup> speed position mode start	
#32	H41B0	R/W		Work mode Factory setting: H0001	b15 b14 b13 b12 b11 b10 b9 b8 b7 b6 b5 b4 b3 b2 b1 b0 0: STOP 1: ON(OH) 2: ON(OH) 3: CLS signal output mode Current position, 0 Current speed, 0 Current position, 0 Return to factor setting MMS setting LSP/LSN stop mode Manual pulse generator range limitation STOP mode Manual pulse generator input operation Zero return Variable speed operation mode start Interrupt, 2 <sup>nd</sup> speed position mode start 2 <sup>nd</sup> speed position mode start Interrupt, 1 <sup>st</sup> speed position mode start 1 <sup>st</sup> speed position mode start	
#34	#33	R/W	H41B1	Current position CP (PLS)	Range display: -2,147,483,648 ~ +2,147,483,647 PLS Factory setting: 0 PLS	
#36	#35	R/W	H41B3	Current speed CS (PPS)	Range display: 0 ~ +2,147,483,647 PPS Factory setting: 0 PPS RS-485 communication address setting: setting range 01 ~ 254 Factory setting: K1, Baud rate setting: 4,800, 9,600, 19,200, 38,400, 57,600, and 115,200 bps. ASCII mode data format is 7bit, even bit and 1 stop bit (7 E 1). RTU mode data format is 8bit, even bit and 1 stop bit (8 E 1). b0: 4,800 bps (bit/sec), b1: 9,600 bps (bit/sec) (factory setting) b2: 19,200 bps (bit/sec), b3: 38,400 bps (bit/sec) b4: 57,600 bps (bit/sec), b5: 115,200 bps (bit/sec) b6: reserved; b7: 0 for RTU, 1 for ASCII mode, b8 ~ b15: communication address	
#37	H41B5	R/W		Communication address and Baud rate setting	b15 b14 b13 b12 b11 b10 b9 b8 b7 b6 b5 b4 b3 b2 b1 b0 MPS input downward MPS input upward Rack passed indication Position reserved indication Error occurred flag OP value overflow Zero return is done CW pulse is outputting CCW pulse is outputting Status indication	
#38	H41B6	R/W		Execution status factory setting: HXXXX	b15 b14 b13 b12 b11 b10 b9 b8 b7 b6 b5 b4 b3 b2 b1 b0 MPS input downward MPS input upward Rack passed indication Position reserved indication Error occurred flag OP value overflow Zero return is done CW pulse is outputting CCW pulse is outputting Status indication	
#39	H41B7	R		Error code	Please refer to "Error Code & Troubleshooting" for detail. Factory setting: H0000	
#40	H41B8	R/W		Electronic gearing number of MPG input	Please refer to the following explanation Factory setting: H1	
#41	H41B9	R/W		Electronic gearing denominator of MPG input	Please refer to the following explanation Factory setting: H1	
#43	#42	R/W	H41BA	Input frequency of manual pulse generator	The input frequency of manual pulse generator Factory setting: 0	
#45	#44	R/W	H41BC	Accumulated pulse input no. of manual pulse generator	The count value of CW manual pulse input is "+" symbol, on the contrary, the CCW manual pulse input is "-" symbol. And the count value is nothing to do with the ratio setting of manual electronic gearing (CR#40, #41). Factory setting: 0.	
#46	H41BE	R/W		Response speed of manual pulse generator	Value ≥ 5 4 32ms 2 256ms 1 or 0 500ms bit #	Response speed 4ms (factory setting) 10ms 256ms 500ms When response speed setting is faster, the instructions of pulse output and manual pulse generator input will be more synchronous. When response speed setting is slower, the instruction of pulse output is slower than the instruction of manual pulse generator input. Factory setting: 5.
#47	H41BF	R		Terminal status	b0 START input When START input is On, b0 is On. b1 STOP input When STOP input is On, b1 is On. b2 DOG input When DOG input is On, b2 is On. b3 PGO input When PGO input is On, b3 is On. b4 LSP input When LSP input is On, b4 is On. b5 LSN input When LSN input is On, b5 is On. b6 A phase input When A phase input is On, b6 is On. b7 B phase input When B phase input is On, b7 is On. b8 CLR output When CLR output is On, b8 is On.	
#48	H41C0	R		System version	System version is in hexadecimal; e.g. software V1.00 is for H0100.	

## 4 Error Code & Troubleshooting

Error code	Description	Error code	Description
H0000	No error	H0014	JOG speed (V <sub>JOG</sub> ) setting error
H0001	Target position (I) setting error	H0020	CW pulse is forbidden
H0002	Target address (II) setting error	H0021	CCW pulse is forbidden
H0010	Running speed (I) setting error	H0030	Hardware error in internal memory
H0011	Running speed (II) setting error	H0080	Hardware error in internal memory
H0012	Zero return deceleration (V <sub>CR</sub> ) setting error	H0081	Data write in error in internal memory
H0013	Zero return (V <sub>RT</sub> ) setting error		

## 注意事項

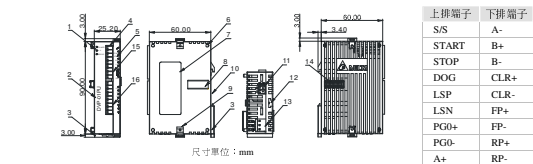
- ✓ 本手冊主要提供 DVP01PU-S 定位模組安裝、配線回路及試機之參考，有關進一步的使用說明，請參考 DVP-PLC 應用技術手冊【特機版組卷】。
- ✓ 請勿在上電時觸碰任何端子，實施配線，務必關閉電源。
- ✓ 本機為開放型 (Open Type) 機殼，因此使用者使用本機時，必須遵守其安裝、防潮及免於電擊/衝擊等意外之配線措施內，亦必須具備防護措施 (如：特殊之工具及驗電方可打開) 防止非授權人員操作及意外衝擊本體，造成危險及損壞。
- ✓ 交流輸入電源不可連接於輸入/輸出端點，否則將造成嚴重的損壞，請在上電之前再次確認電源配線。

## 1 產品簡介

### ■ 說明及迴路裝置

DVP01PU-S 脈波產生單元主要應用於步進或伺服驅動系統之速度或位置控制，最高 200 kPPS 脈波輸出，內建多種行程控制模式，透過 DVP-PLC S/S/AS/SX/SC/SV 系列主機數以指令 FROM/TO 來讀寫模組內的資料，模組內共有 49 個 CR 暫存器，每個暫存器為 16 位，32 位元數據庫由兩個連續編碼的 CR 所組成。

### ■ 產品外觀與各部分介紹 (指示燈、端子台)



- 電源、低電壓及運行指示燈
- 機殼型號
- DIN 軌固定扣
- 插子
- 指示燈
- 擴充機櫃模組固定孔
- 鉗線
- 擴充機櫃模組連接口
- 擴充機櫃模組固定扣
- DIN 軌槽 (35mm)
- RS-485 通訊口
- 擴充機櫃模組固定槽
- 電源輸入口
- 擴充機櫃模組連接口
- 上排端子
- 下排端子

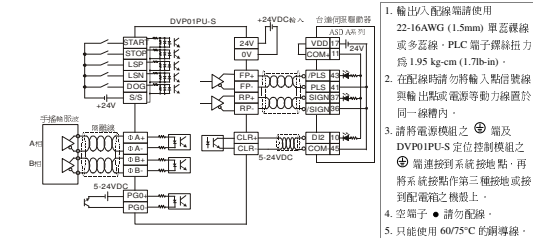
### ■ 面板指示燈

POWER : 電源指示燈，內置 +5V 電源正常	START : 啟動輸入指示燈
LV : 低電壓指示燈，外置電源輸入小於 19.5V，該指示燈亮	STOP : 停止輸入指示燈
ERROR : 錯誤指示燈 (ON/OFF 閃爍)；當 CR#39 錯誤編碼不為零時動作	DOG : 近點信號輸入指示燈
LSP : 右極限輸入指示燈	FP : 正轉方向的輸出指示燈
LSN : 左極限輸入指示燈	RP : 反轉方向的輸出指示燈
PG0 : 零點信號輸入指示燈	CLR : 清除信號輸出指示燈

### ■ 輸入輸出端子信號

種類	端子	說明	回應特性
電源輸入/供應	+24V, 0V	輸入電源; 24V DC (-15 ~ +20%); 消耗電流 70±10mA; 開關電流 1.3 A	-
輸入	START	啟動輸入	4ms/12ms
	STOP	停止輸入	4ms
	LSP/LSN	右極限輸入/左極限輸入	1ms
	PA, PB	手搖軸 A 相輸入 (+) (脈動信號輸入)	200kHz
	QA, QB	手搖軸 B 相輸入 (+) (脈動信號輸入)	200kHz
	PG0, PGO	零點信號輸入 (+) (脈動信號輸入)	4ms
輸出	DOG	近點信號輸出	1ms
	S/S	輸入點 (START, STOP, DOG, LSP, LSN) 信號共用點	4ms
	CLR+, CLR-	清除信號 (Servo 驅動器內部清除信號) 輸出點	4ms
	FP+, FP-	正轉脈動輸出; 正轉方向脈動輸出; 脈動方向: 脈動輸出; A 相輸出	200kHz
	RP+, RP-	反轉脈動輸出; 反轉方向脈動輸出; 脈動方向: 反轉輸出; A 相輸出	200kHz

### ■ 輸入輸出回路配線



- 輸入/輸出脈動單使用 22-16AWG (1.5mm) 單蕊線或更多蕊線，PLC 端子螺絲扭力為 1.95 kg-cm (1.7in-lb)。
- 在配線時請勿將輸入點信號線與輸出點/電源等動力線置於同一線槽內。
- 請將電源模組之 ② 端及 DVP01PU-S 定位控制模組之 ② 端接到系統接地點，再將系統接點作第三種接地或接到配電箱之機殼上。
- 空端子 ● 請勿配線。
- 只能使用 60/75°C 的銅導線。

## 2 規格

### ■ 功能規格

項目	說明
電源輸入	24V DC (-15% ~ +20%); 消耗電流 70 ± 10mA; 開關電流 1.3 A
最大連接軸數	8 台 (軸); (不占任何 I/O 點數; S/S/AS/SX/SC/SV 系列主機所能連接時擴充機櫃軸數和為 8 台)
距離設定值由內部暫存器 (CR) 來設定:	
1. 設定位置: -2,147,483,648 ~ +2,147,483,647;	
2. 單位可選擇: um, mdeg, 10" inch, Pulse;	
3. 可選擇脈率: 10", 10", 10", 10";	
4. 可選擇絕對位置或相對移動量	
速度設定	速度設定值由內部暫存器 (CR) 來設定: 1. 設定值: -2,147,483,648 ~ +2,147,483,647 unit <sup>1</sup> 2. 單位可選擇: pulses/s, cm/min, 10deg/min, inch/min
全部採用石英晶振作為時鐘，輸入/輸出信號皆 LED 作為信號及狀態指示	
輸出點: FP, RP 輸出點與脈動信號 輸出點: CLR 為高電壓 NPN 開關 5 ~ 24V DC, 20mA 以下	

項目	說明
外部輸入點	全部採用光耦作隔離，輸出A信號皆附LED作為信號及故障的指示 輸入點：START、STOP、LSP、LSN、DOG為接點或電晶體開關24V DC±10%，5mA 輸入點：ΦA、ΦB為接點或電晶體開關5~24V DC、6~15mA 輸入點：PGO為接點或電晶體開關5~24V DC、6~15mA
脈波輸出方式	三種模式：PulseDr、FP (CW/RP (CCW)、AB) 均採用逆動輸出
定位閉鎖程式與主機控制之數	主機使用PLC程式為閉鎖 FROMTO 指令來讀取輸入 CR 的內容內容，如果資料內容為 32 位元時，以 2 位 CR 變量，內建 16 位控制暫存器 CR00~CR48
與 DVP-PLC 主機連接規格	模組編號以確定主機順序自動編號由 0 到 7，最大可連接 8 台，不用數字 IO 點數

**■ 其他規格**

環境規格	說明
操作儲存環境	1. 操作：0°C ~ 55°C (溫度)，50 ~ 95% (濕度)，污染等級 2 2. 儲存：-25°C ~ 70°C (溫度)，5 ~ 95% (濕度)
附錄數據表	國際標準規格 IEC 61131-2、IEC 682-6 (TEST F)/IEC 61131-2 & IEC 682-2 (TEST Ea)

## ● 控制暫存器 CR

HW	CR 編號	通訊地址	保持屬性	內容	設定範圍																																																																
#0	H'4190	○	R	機種型號	系統內定，唯讀；機種號碼請參照型號列表表 H'0110																																																																
#2	H'4191	○	R/W	馬達轉一圈所需脈波數 A	設定範圍 1 ~ +2,147,483,647 PPS/REV；初始值：2,000 脈波數/轉一圈 (PLS/REV)																																																																
#4	H'4193	○	R/W	馬達轉一圈所需脈波數 B	設定範圍 1 ~ +2,147,483,647 unit/REV；初始值：1,000 unit/REV																																																																
#5	H'4195	○	R/W	參數設定 初始值：H'0000	<table border="1"> <tr> <th>bit5</th><th>bit4</th><th>bit3</th><th>bit2</th><th>bit1</th><th>b0</th><th>b9</th><th>b8</th><th>b7</th><th>b6</th><th>b5</th><th>b4</th><th>b3</th><th>b2</th><th>b1</th><th>b0</th> </tr> <tr> <td>RS-485 通訊地址</td><td>RS-485 通訊地址</td><td>RS-485 通訊地址</td><td>DOG 輸出</td><td>DOG 輸出</td><td>DOG 輸出</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td> </tr> <tr> <td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td> </tr> <tr> <td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td> </tr> </table>	bit5	bit4	bit3	bit2	bit1	b0	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0	RS-485 通訊地址	RS-485 通訊地址	RS-485 通訊地址	DOG 輸出	DOG 輸出	DOG 輸出	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入
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#7	H'4196	○	R/W	最高速度 V <sub>max</sub>	設定範圍 0 ~ +2,147,483,647 unit/* (10 ~ 200kPPS 的脈波轉換值)*2； 初始值：2000 unit/*																																																																
#8	H'4198	○	R/W	啟動速度 V <sub>min</sub>	設定範圍 0 ~ +2,147,483,647 unit/* (10 ~ 200kPPS 的脈波轉換值)*2； 初始值：0 unit/*																																																																
#11	#10	H'419A	○	寸動 JOG 速度 V <sub>JOG</sub>	設定範圍 0 ~ +2,147,483,647 unit/* (10 ~ 200kPPS 的脈波轉換值)*2； 初始值：5,000 unit/*																																																																
#13	#12	H'419C	○	原點回歸速度 Var	設定範圍 0 ~ +2,147,483,647 unit/* (10 ~ 200kPPS 的脈波轉換值)*2； 初始值：30,000 unit/*																																																																
#15	#14	H'419E	○	原點回歸速度 V <sub>ce</sub>	設定範圍 0 ~ +2,147,483,647 unit/* (10 ~ 200kPPS 的脈波轉換值)*2； 初始值：1,000 unit/*																																																																
#16	H'41A0	○	R/W	原點回歸之零點 (PGO)的位元數 N	設定範圍 0 ~ +32,767 PLS；初始值：0 PLS																																																																
#17	H'41A1	○	R/W	原點回歸之脈波倍數 P	設定範圍 -32,768 ~ +32,767 PLS；初始值：0 PLS																																																																
#18	H'41A2	○	R/W	原點回歸轉 H MODE	bit：原點回歸模式，b1：原點回歸 DOG 下降緣觸測																																																																
#20	#19	H'41A3	○	原點位置定差 HP	設定範圍 0 ~ 4999,999 unit*1；初始值：0 unit*1																																																																
#21	H'41A5	○	R/W	加速時間 Tacc	設定範圍 10 ~ +32,767 ms；初始值：100 ms																																																																
#22	H'41A6	○	R/W	減速時間 Tdec	設定範圍 10 ~ +32,767 ms；初始值：100 ms																																																																
#23	H'41A7	○	R/W	目標位置 (D) PID	設定範圍 -2,147,483,648 ~ +2,147,483,647 unit*1 (-2,147,483,648 ~ +2,147,483,647 脈波轉換值)*2； 初始值：0 unit*1																																																																
#25	H'41A9	○	R/W	運轉速度 (I) VDI	設定範圍 -2,147,483,648 ~ +2,147,483,647 unit*1 (10 ~ 200kPPS 的脈波轉換值)*2； 初始值：1,000 unit*1																																																																
#27	H'41AB	○	R/W	目標位置 (H) PID	設定範圍 -2,147,483,648 ~ +2,147,483,647 unit*1 (-2,147,483,648 ~ +2,147,483,647 脈波轉換值)*2； 初始值：0 unit*1																																																																
#30	#29	H'41AD	○	運轉速度 (H) VDI	設定範圍 -2,147,483,647 unit*1 (10 ~ 200kPPS 的脈波轉換值)*2； 初始值：2,000 unit*1																																																																

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#31	H'41AF	○	R/W	運轉命令 初始值：H'0000	<table border="1"> <tr> <th>bit5</th><th>bit4</th><th>bit3</th><th>bit2</th><th>bit1</th><th>b0</th><th>b9</th><th>b8</th><th>b7</th><th>b6</th><th>b5</th><th>b4</th><th>b3</th><th>b2</th><th>b1</th><th>b0</th> </tr> <tr> <td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td> </tr> <tr> <td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td> </tr> <tr> <td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td> </tr> </table>	bit5	bit4	bit3	bit2	bit1	b0	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入
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#32	H'41B0	○	R/W	工作模式 初始值：H'0001	<table border="1"> <tr> <th>bit5</th><th>bit4</th><th>bit3</th><th>bit2</th><th>bit1</th><th>b0</th><th>b9</th><th>b8</th><th>b7</th><th>b6</th><th>b5</th><th>b4</th><th>b3</th><th>b2</th><th>b1</th><th>b0</th> </tr> <tr> <td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td> </tr> <tr> <td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td> </tr> <tr> <td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td> </tr> </table>	bit5	bit4	bit3	bit2	bit1	b0	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入
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#34	#33	H'41B1	○	R/W	現在位置 CP(PLS)	顯示範圍：-2,147,483,648 ~ +2,147,483,647 PLS；初始值：0 PLS																																																															
#35	#35	H'41B3	○	R/W	現在速度 CS(PPS)	顯示範圍：0 ~ +2,147,483,647 PPS；初始值：0 PPS 設定 RS-485 通訊地址；設定範圍 01 ~ 254；輸出設定值為 K1。 設定通訊速率，共有 4,800, 9,600, 19,200bps, 38,400, 57,600bps, 115,200bps 六種																																																															
#37	H'41B5	○	R/W	通訊地址及速率 (Baud Rate)設定	ASCI 模式資料格式固定為 7B1，個位元，1 stop bit (7 E 1)，RTU 模式資料格式固定為 8B1，個位元，1 stop bit (8 E 1)。 b0: 4,800 bps (位/秒)； b1: 9,600 bps (位/秒)。(由厂設定值) b2: 19,200 bps (位/秒)； b3: 38,400 bps (位/秒)。 b4: 57,600 bps (位/秒)； b5: 115,200 bps (位/秒)。 b6: 保留； b7: 為 RTU 模式，1 為 ASCII 模式。 b8 ~ b5: 通訊地址。																																																																
#38	H'41B6	○	R/W	執行狀態 初始值：H'XXXX	<table border="1"> <tr> <th>bit5</th><th>bit4</th><th>bit3</th><th>bit2</th><th>bit1</th><th>b0</th><th>b9</th><th>b8</th><th>b7</th><th>b6</th><th>b5</th><th>b4</th><th>b3</th><th>b2</th><th>b1</th><th>b0</th> </tr> <tr> <td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td> </tr> <tr> <td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td> </tr> <tr> <td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td><td>AS 輸入</td> </tr> </table>	bit5	bit4	bit3	bit2	bit1	b0	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入	AS 輸入
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#39	H'41B7	○	R	錯誤訊息代碼	請參考單元 6 之說明；初始值：H'0000																																																																
#40	H'41B8	○	R/W	MFG 輸入電子齒輪分數	請參考以下之說明；初始值：H'1																																																																
#41	H'41B9	○	R/W	MFG 輸入電子齒輪分數	請參考以下之說明；初始值：H'1																																																																

HW	CR 編號	通訊地址	保持屬性	內容	設定範圍																											
#43	#42	H'41BA	○	R/W	手搖輸入脈率 由手搖輸入輸入的脈波頻率；初始值 0																											
#45	#44	H'41BC	○	R/W	累計手搖輸入脈率 計數由手搖輸入輸入的脈波數，正確前輸入，該計數值為“加”動作，若反轉則輸入，則該計數值為“減”動作，其中，計數值不受手搖脈率定常值 (CR40、#41) 設定影響；初始值 0																											
#46	H'41BE	○	R/W	手搖輸入回原速度 依照下列模式不同有下列 2 種變化。 1.原點歸位為定點信號。2.一段速或二段速進入自動信號	<table border="1"> <tr> <th>設定值</th><th>脈率速度</th> </tr> <tr> <td>≥5</td><td>4m (初始值)</td> </tr> <tr> <td>4</td><td>32ms</td> </tr> <tr> <td>3</td><td>108ms</td> </tr> <tr> <td>2</td><td>256ms</td> </tr> <tr> <td>1</td><td>500ms</td> </tr> </table>	設定值	脈率速度	≥5	4m (初始值)	4	32ms	3	108ms	2	256ms	1	500ms															
設定值	脈率速度																															
≥5	4m (初始值)																															
4	32ms																															
3	108ms																															
2	256ms																															
1	500ms																															
#48	H'41C0	○	R	系統版本 系統版本指示，16 進位表示，例如：H'0100，表示軟體版本為 V1.00	<table border="1"> <tr> <th>bit#</th><th>bit#</th><th>說明</th> </tr> <tr> <td>b0</td><td>b0</td><td>當 START 輸入為 On 時，b0 為 On</td> </tr> <tr> <td>b1</td><td>b1</td><td>當 STOP 輸入為 On 時，b1 為 On</td> </tr> <tr> <td>b2</td><td>b2</td><td>當 DOG 輸入為 On 時，b2 為 On</td> </tr> <tr> <td>b3</td><td>b3</td><td>當 PGO 輸入為 On 時，b3 為 On</td> </tr> <tr> <td>b4</td><td>b4</td><td>當 LSP 輸入為 On 時，b4 為 On</td> </tr> <tr> <td>b5</td><td>b5</td><td>當 LSN 輸入為 On 時，b5 為 On</td> </tr> <tr> <td>b6</td><td>b6</td><td>當 A 相輸入為 On 時，b6 為 On</td> </tr> <tr> <td>b7</td><td>b7</td><td>當 B 相輸入為 On 時，b7 為 On</td> </tr> </table>	bit#	bit#	說明	b0	b0	當 START 輸入為 On 時，b0 為 On	b1	b1	當 STOP 輸入為 On 時，b1 為 On	b2	b2	當 DOG 輸入為 On 時，b2 為 On	b3	b3	當 PGO 輸入為 On 時，b3 為 On	b4	b4	當 LSP 輸入為 On 時，b4 為 On	b5	b5	當 LSN 輸入為 On 時，b5 為 On	b6	b6	當 A 相輸入為 On 時，b6 為 On	b7	b7	當 B 相輸入為 On 時，b7 為 On
bit#	bit#	說明																														
b0	b0	當 START 輸入為 On 時，b0 為 On																														
b1	b1	當 STOP 輸入為 On 時，b1 為 On																														
b2	b2	當 DOG 輸入為 On 時，b2 為 On																														
b3	b3	當 PGO 輸入為 On 時，b3 為 On																														
b4	b4	當 LSP 輸入為 On 時，b4 為 On																														
b5	b5	當 LSN 輸入為 On 時，b5 為 On																														
b6	b6	當 A 相輸入為 On 時，b6 為 On																														
b7	b7	當 B 相輸入為 On 時，b7 為 On																														

\*1：設定單位依照 CR#5 參數設定之 b0、b1 單位系統來變化  
\*2：設定範圍對應的脈波轉換值，若大于脈波輸出最大範圍，則以最大脈波輸出，若小于脈波輸出最小範圍，則以最小脈波輸出。  
\* CR#0 ~ CR#48：對應的參數地址 H'4190 ~ H'41C0 可提供使用者利用 RS-485 通訊來讀取資料。  
1. 支援傳輸速度 4,800, 9,600, 19,200, 38,400, 57,600bps, 115,200bps。  
2. 可使用 Modbus ASCII 模式/RTU 模式通訊協定，ASCII 模式資料格式固定為 7 位元，個位元，1 stop bit (7 E 1)，RTU 模式資料格式固定為 8 位元，個位元，1 stop bit (8 E 1)。  
3. 功能碼 (Function)：03H 讀出暫存器資料，06H 寫入一個 WORD 資料至暫存器，10H 寫入多筆 WORD 資料至暫存器。

## ● 異常訊號及故障排除

當錯誤指示亮，表示 DVPOIPUS 發生硬體的故障或因誤調的參數設定造成，錯誤訊息代碼記錄於 CR#39。

錯誤碼	說明	錯誤碼	說明
H'0000	無錯誤	H'0014	寸動 JOG 速度 (V <sub>JOG</sub> ) 設定錯誤
H'0001	目標位置 (D) 設定錯誤	H'0020	正方向轉動禁止
H'0002	目標位置 (D) 設定錯誤	H'0021	反方向轉動禁止
H'0010	運行速度 (I) 設定錯誤	H'0030	低電壓訊號
H'0011	運行速度 (I) 設定錯誤	H'0080	內部記憶體發生硬體錯誤
H'0012	原點回歸減速速度 (V <sub>ce</sub> ) 設定錯誤	H'0081	內部記憶體發生資料寫入錯誤
H'0013	原點回歸速度 (Var) 設定錯誤		

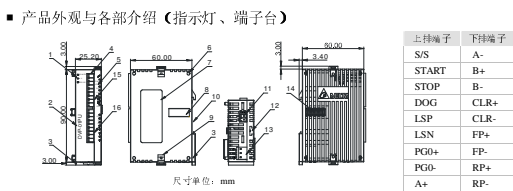
**⚠ 注意事項** [新增中文]

- ★ 本手冊主要提供 DVPOIPUS 定位模块安裝、配線及測試的參考，有關進一步的使用說明，請參考 DVP-PLC 應用技術手冊【特殊機械篇】。
- ★ 請勿在上電時接觸任何端子，實施配線，務必切斷電源。
- ★ 本機為開放型 (Open Type) 機台，因此使用者安裝上本機時，必須將之安裝于具防塵、防潮及免于操作/冲击意外的外部配線箱內，另必須具備保護措施 (如：特殊的工具或鎖匙才可打開) 防止非維修人員操作或意外冲击本機，造成危險及損壞。
- ★ 交流輸入電源不可直接于輸入/輸出端接，否則將造成嚴重的損壞，請在上電之前再次確認電源配線。

## ● 產品簡介

**■ 說明及外圍裝置**  
DVPOIPUS 脉冲沖單元主要應用於步進或伺服驅動系統的速度或位置控制。最高 200kpps 脉冲輸出，內建多種行程控制模式，透過 DVP-PLC SSS/ASX/SCSV 系列主機程序以指令 FROMTO 來读写模块內部的數據，模块內共有 49 个 CR 寄存器，每个寄存器为 16 位，32 位數據參數由两个连续編號的 CR 所組成。

**■ 产品外观与各部介绍 (指示灯、端子台)**

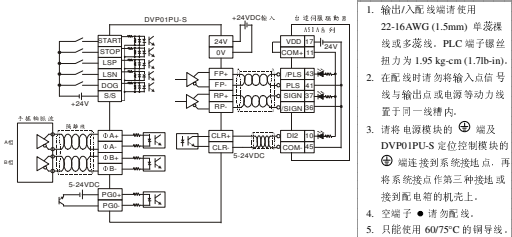


- | 1. 電源、低電壓及運行指示燈 | 9. 擴展模組/擴展模块固定扣   |
|-----------------|-------------------|
| 2. 機種型號         | 10. DIN 插針 (35mm) |
| 3. DIN 軌固定扣     | 11. RS-485 通訊口    |
| 4. 端子           | 12. 擴展模組/擴展模块固定槽  |
| 5. 端子指示燈        | 13. 電源輸入孔         |
| 6. 擴展模組/擴展模块定位孔 | 14. 擴展模組/擴展模块连接口  |
| 7. 校牌           | 17. 上排端子          |
| 8. 擴展模組/擴展模块连接口 | 18. 下排端子          |
- 面板指示灯**
- POWER**：電源指示燈，內部 +5V 電源正常  
**LV**：低電壓指示燈，外部電源輸入小于 19.5V，該指示燈亮  
**ERROR**：錯誤指示燈 (On/Off 閃爍)。當 CR#39 錯誤碼為非零時動作  
錯誤碼為非零時動作  
**LSP**：右極限輸入指示燈  
**LSN**：左極限輸入指示燈  
**PGO**：零位信號輸入指示燈
- START**：啟動輸入指示燈  
**STOP**：停止輸入指示燈  
**DOG**：近點信號輸入指示燈  
**FP**：正轉方向脉冲輸出指示燈  
**RP**：反轉方向脉冲輸出指示燈  
**ΦA**：手搖輸入 A 相輸入指示燈  
**ΦB**：手搖輸入 B 相輸入指示燈  
**CLR**：清除信號輸出指示燈

## ■ 輸入 / 輸出端子信號

種類	端子	說明	特性
輸入	電源輸入 (A/B)	+24V (V <sub>+</sub> )、STOP 輸入電壓，24V DC (-15 ~ +20%)，消耗電流 70mA，開机电流 1.3 A	無
	START	啟動輸入	4m/12ms
	STOP	停止輸入	4ms
	LSP/LSN	左極限輸入/右極限輸入	1ms
	ΦA、ΦB	手搖輸入 A 相輸入/A <sub>+</sub> (差分信號輸入)	200kHz
	ΦB、ΦB	手搖輸入 B 相輸入/A <sub>-</sub> (差分信號輸入)	200kHz
	PGO、PGO	零位信號輸入/A <sub>+</sub> (差分信號輸入)	4ms
	DOG	依照下列模式不同有下列 2 種變化。 1.原點歸位為定點信號。2.一段速或二段速進入自動信號	1ms
	S/S	輸入點 (START、STOP、DOG、LSP、LSN) 信號共通端	4ms
	CLR+、CLR-	清除信號 (S/S 停止動作內部脈波計數器清除信號)	-
輸出	FP+、FP-	正轉方向脉冲輸出；脉冲方向：脉冲輸出端；AB 相模式，A 相輸出	200kHz
	RP+、RP-	反轉方向脉冲輸出；脉冲方向：方向輸出端；AB 相模式，B 相輸出	200kHz

## ■ 輸入 / 輸出回路配線



## ● 规格

項目	說明
電源輸入	24V DC (-15% ~ +20%)，消耗電流 70mA，開机电流 1.3 A
最大連接信號數	8 台 (輪)；(不占任何 IO 點數，SS/ASX/SCSV 系列主機所能連接擴展机台數总和为 8 台)
脈衝輸出方式	三種模式：PulseDr、FP (CW/RP (CCW)、AB)；均採用逆動輸出
速度	最高速度 V <sub>max</sub> 設定範圍 0 ~ +2,147,483,647 unit/* (10 ~ 200kPPS 的脈波轉換值)*2； 啟動速度 V <sub>min</sub> 設定範圍 0 ~ +2,147,483,647 unit/* (10 ~ 200kPPS 的脈波轉換值)*2； 寸動 JOG 速度 V <sub>JOG</sub> 設定範圍 0 ~ +2,147,483,647 unit/* (10 ~ 200kPPS 的脈波轉換值)*2； 原點回歸速度 Var 設定範圍 0 ~ +2,147,483,647 unit/* (10 ~ 200kPPS 的脈波轉換值)*2； 原點回歸速度 V <sub>ce</sub> 設定範圍 0 ~ +2,147,483,647 unit/* (10 ~ 200kPPS 的脈波轉換值)*2； 原點回歸速度 (Var) 設定範圍 0 ~ +2,147,483,647 unit/* (10 ~ 200kPPS 的脈波轉換值)*2； 原點回歸速度 (Var) 設定範圍 0 ~ +2,147,483,647 unit/* (10 ~ 200kPPS 的脈波轉換值)*2；
外部輸出點	全部採用光耦作隔離，輸出A信號皆附LED作為信號及故障的指示 輸入點：START、STOP、LSP、LSN、DOG為接點或晶體管開關24V DC±10%，5mA 輸入點：ΦA、ΦB為差分或晶體管開關5~24V DC、6~15mA 輸入點：PGO為差分或晶體管開關5~24V DC、6~15mA
外部輸入點	全部採用光耦作隔離，輸出A信號皆附LED作為信號及故障的指示 輸入點：START、STOP、LSP、LSN、DOG為接點或晶體管開關24V DC±10%，5mA 輸入點：ΦA、ΦB為差分或晶體管開關5~24V DC、6~15mA 輸入點：PGO為差分或晶體管開關5~24V DC、6~15mA

**■ 其它規格**

項目	說明
操作儲存環境	1. 操作：0°C ~ 55°C (溫度)，50 ~ 95% (濕度)，污染等級 2 2. 儲存：-25°C ~ 70°C (溫度)，5 ~ 95% (濕度)
附錄數據表	國際標準規格 IEC 61131-2、IEC 682-6 (TEST F)/IEC 61131-2 & IEC 682-2 (TEST Ea)

## ● 控制寄存器 CR

HW	CR 編號	通訊地址	保持屬性	內容	設定範圍								
#0	H'4190	○	R	機種型號	系統內定，唯讀；機種號碼請參照機台型號列表 H'0110								
#2	H'4191	○	R/W	電機轉一圈所需脈波數 A	設定範圍 1 ~ +2,147,483,647 PPS/REV；初始值：2,000 脈波數/轉一圈 (PLS/REV)								
#4	H'4193	○	R/W	電機轉一圈所需脈波數 B	設定範圍 1 ~ +2,147,483,647 unit/REV；初始值：1,000 unit/REV								
#5	H'4195	○	R/W	參數設定 初始值：H'0000	<table border="1"> <tr> <th>bit5</th><th>bit4</th><th>bit3</th><th>bit2</th><th>bit1</th><th>b0</th><th>b9</th><th>b8</th></tr></table>	bit5	bit4	bit3	bit2	bit1	b0	b9	b8
bit5	bit4	bit3	bit2	bit1	b0	b9	b8						